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EXAMINER	
KAHN, RACHEL	

ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/560,951	NIWA ET AL.	
	Examiner	Art Unit	
	RACHEL KAHN	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 January 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-5,7,8,10,12,27-30 and 32-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-5,7,8,10,12,27-30 and 32-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 January 2010* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/4/10*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1, 3-5, 7, 8, 10, 12, 27-30 and 32-35 are pending as amended on 1/4/10.

Response to Amendment

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Any rejections stated in the previous Office Action and not repeated below are withdrawn.

The new grounds of rejection set forth below are necessitated by applicant's amendment filed on 1/4/10. Applicant has added claims 34 and 35 reciting specific amounts of components recited in claim 1. It is noted that the newly introduced limitations were not present at the time of the preceding action. For this reason it is proper to make the present action FINAL.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 1/4/10 was filed after the mailing date of the non-final action on 9/3/09. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

Applicant has submitted drawings (referred to as "Exhibit 1" in the arguments filed 1/4/10) of two "slightly whitened" films. The drawings are objected to as they are not described specification. If Applicant intended the drawings as evidence of unexpected results, the drawings must be submitted as an affidavit or declaration under 37 CFR 1.132. See MPEP 716.

Examiner notes that in the remarks, Applicant has not clearly established the composition of the pictured films. This issue is addressed further in the response to arguments section below. In addition, due to the image quality (image has been photocopied and scanned), it is difficult to assess the "whitened" characteristic described by Applicant.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 34 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims fail to specify units, and are therefore indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-5, 10, 12, 27-30, 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kuriu** (WO00/56548, the US patent equivalent, 6645640, will be cited herein) in view of **Yamamoto** et al (JP 11-199741), and further in view of **Toyozumi** (JP 2002-338770). The rejection stands as previously set forth in the action dated 9/3/09. The rejection is set forth below for reference.

Kuriu discloses a multilayered film consisting of three layers: a polyamide layer, a saponified ethylene-vinyl acetate layer, and a polyamide layer (columns 3-4, examples 1 and 2). In Example 2 (column 4, lines 9-17), Kuriu teaches that the polyamide layers comprise aliphatic polyamide (nylon-6) as the principal ingredient (86.0 wt %) and aromatic polyamide (poly(m-xylylene adipamide) in an amount of 10 wt % and a modified ethylene-vinyl acetate copolymer in an amount of 4.0 wt% (column 3, lines 54-56). Kuriu teaches that the film may contain organic additives such as antioxidants in typical amounts (col 2, lines 36-40).

Kuriu fails to teach that the saponified ethylene-vinyl acetate copolymer layer comprises polyamide resin and an alcohol based compound.

Yamamoto discloses a composition which has excellent retort resistance comprising saponified ethylene vinyl acetate (herein EVOH) mixed with a polyamide resin and an alcoholic compound. (English patent abstract and [0004] of machine translation). Yamamoto teaches that this composition may be formed into a film or sheet [0011] and that other materials may be layered on one or both sides [0012].

Yamamoto teaches that EVOH is commonly used as packaging in the food industry, yet it is flawed in terms of its heat resistance, shock resistance and stiffness [0002]. Yamamoto discloses that it is known in the art to blend polyamide resin with EVOH to improve the aforementioned flaws [0002]. It would be obvious, therefore, to one of ordinary skill in the art, to blend polyamide with EVOH in order to improve the heat and shock resistance, as well as stiffness, of the film. However, Yamamoto further teaches that EVOH/polyamide compatibility issues lead to deterioration of physical properties [0003]. Yamamoto teaches that such compatibility issues can be resolved by adding an alcohol-based compound [0004]. It would be obvious, therefore, to one of ordinary skill, to add alcohol to a film comprising a blend of EVOH and polyamide, in order to avoid deterioration of physical properties due to incompatibility.

Yamamoto and Kuriu represent analogous art. Both disclose multilayer films comprising polyamide and EVOH layers for use in food packaging. Furthermore, both are attempting to reduce stiffness in film layers (Kuriu teaches that softening improves pinhole resistance - col 1, lines 19-25). Given Yamamoto's teaching that the physical

properties of EVOH, including stiffness, can be improved by adding polyamide and alcohol, it would be obvious to one of ordinary skill in the art to modify the EVOH layer taught by Kuriu (as in example 2) by adding polyamide and alcohol, as taught by Yamamoto, in order to improve the heat and shock resistance, and overall stiffness of the multilayer laminate.

While Kuriu teaches that the polyamide layer of the multilayer film comprises 4.0 wt% of a modified ethylene-vinyl acetate copolymer (column 3, lines 54-56), Kuriu fails to teach the addition of an ethylene-methacrylic acid copolymer ionomer.

Toyozumi discloses a composition comprising saponified ethylene vinyl acetate, polyamide, and an ionomer of an ethylene methacrylic acid copolymer [claim 1], [claim 5]. (Examiner note: ionomer is translated as "eye ONOMA.")

Toyozumi teaches that blends of EVOH and polyamide have nonuniform thickness, which leads to deterioration in gas barrier (“GASUBARIA”) and pinhole resistance properties [0004]. Toyozumi discloses that the addition of an olefinically unsaturated carboxylic acid copolymer solves this problem [0005]. Toyozumi teaches a preferred copolymer from ethylene [0018] and methacrylic acid [0019], and teaches various metal ions for neutralization of the ionomer [0024]. Toyozumi teaches that the best gas barrier properties and pinhole resistance are achieved when the copolymer is present between 3-15 wt% [0029].

It would be obvious, therefore, to one of ordinary skill in the art, to add ethylene methacrylic acid copolymer ionomer, as taught by Toyozumi, to the modified ethylene

vinyl acetate containing polyamide layers of the multilayer film taught by Kuriu in view of Yamamoto, in order to improve uniformity, pinhole resistance and gas barrier properties of the layer.

Regarding **claim 3**, Yamamoto teaches the addition of silica to the EVOH resin system [0011].

Regarding instant **claim 4**, Yamamoto discloses that the composition is prepared by mixing a polyamide resin with an alcoholic compound and then adding EVOH to the mixture (English patent abstract and [0004] of machine translation)

Regarding instant **claim 5** both Kuriu and Yamamoto [0007] teach EVOH which fulfills the recited ethylene content and degree of saponification. The EVOH used by Kuriu in examples 1 and 2 contains 32 mol% ethylene and has a 99% degree of saponification (col 3, lines 55-58).

Regarding instant **claim 12**, Kuriu teaches that the multilayer film is produced by coextrusion (col 2, line 50) and biaxial stretching (col 2, line 62). See also Example 1, col 3, lines 60-67.

Regarding instant **claim 27**, Yamamoto teaches that the composition has excellent transparency and retorting resistance (English abstract), and teaches the use of nylon 6 for the polyamide resin in the EVOH layer [0005, 2nd line].

Regarding **claim 28**, Yamamoto discloses the claimed ratios exactly (English patent abstract).

Regarding instant **claims 29 and 30**, Kuriu teaches that the multilayer film is produced by coextrusion (col 2, line 50) and biaxial stretching (col 2, line 62). See also Example 1, col 3, lines 60-67. In addition, Yamamoto discloses coextrusion [0012] as well as stretching by "two axes" (i.e. biaxial stretching) [0011].

Regarding instant **claim 32**, the two polyamide layers taught by Kuriu in Example 2 (column 4), fulfill the recitations of the instant claim. Both polyamide layers comprise 10 wt % aromatic polyamide. Therefore, one layer reads on the recitation of "at least one polyamide layer comprising aromatic polyamide in concentration of 2.0-10 wt%," while the other layer, as it contains aromatic polyamide, reads on the recitation of "at least one additional aromatic polyamide layer."

Regarding instant **claim 33**, Kuriu teaches that modified ethylene-vinyl acetate copolymers include each of the members recited in the instant claim (col 2, lines 20-25).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kuriu** (WO00/56548, the US patent equivalent, 6645640, will be cited herein) in view of **Yamamoto** et al (JP 11-199741), and further in view of **Toyozumi** (JP 2002-338770) as applied to claim 1 above, and further in view of **Tokoh** et al (US 5428094).

The above rejection of claim 1 over Kuriu in view of Yamamoto et al and further in view of Toyozumi is incorporated here by reference.

If it is not considered obvious to add silica to the laminate made obvious by Kuriu in view of Yamamoto in Toyozumi, Tokoh teaches that adding water-swellable

phyllosilicate to EVOH allows the resin to retain excellent gas barrier properties and good transparency even under highly humid conditions (col 2, lines 25-42). Given that Kuriu in view of Yamamoto and Toyozumi teach subjecting the laminate to high humidity (retort), it would have been obvious to one of ordinary skill at the time the invention was made to add water swellable phyllosilicate to the EVOH, as taught by Tokoh, in order to retain excellent gas barrier properties and good transparency.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kuriu** (WO00/56548, the US patent equivalent, 6645640, will be cited herein) in view of **Yamamoto** et al (JP 11-199741), and **Toyozumi** (JP 2002-338770) as applied to claim 1 above, and further in view of **Matsui** et al (JP 2002-248721).

The above rejection of claim 1 over Kuriu in view of Yamamoto et al and further in view of Toyozumi is incorporated here by reference.

While Kuriu teaches the addition of antioxidant to the multilayer film, Kuriu fails to specify an antioxidant, and therefore fails to teach the recitations of instant claims 7 and 8.

Matsui teaches a layered film containing a polyamide layer suitable for packing material subject to retort treatment [0001]. Matsui teaches that the polyamide film has excellent transparency and heat resistance [0002]. Matsui discloses the addition of an antioxidant to the polyamide and suggests the use of pentaerythrityl-tetrakis[3-3,5-di-t-

butyl-4-hydroxyphenyl]propionate [0020]. Given the teaching by Matsui that the antioxidant minimizes strength reduction of the polyamide film following retort treatment [0019], it would have been obvious to one of ordinary skill in the art to add the antioxidant to the polyamide layers in the laminates taught by Kuriu in view of Yamamoto and Toyozumi, in order to improve toughness of the film.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kuriu** (WO00/56548, the US patent equivalent, 6645640, will be cited herein) in view of **Yamamoto** et al (JP 11-199741), and **Toyozumi** (JP 2002-338770) as applied to claim 1 above, and further in view of **Tanaka** et al (JP 2002-172742).

The above rejection of claim 1 over Kuriu in view of Yamamoto et al and further in view of Toyozumi is incorporated here by reference.

Kuriu fails to teach the use of a primarily aromatic polyamide layer in the same multilayer film with a primarily ethylene vinyl acetate layer. While Yamamoto teaches the use of additional layers such as polyamide [0013], the reference fails to teach specific types of polyamide, and therefore fails to teach “aromatic polyamide.”

Tanaka teaches a biaxially stretched three layer laminate with an EVOH layer, an aliphatic polyamide layer and a xylylene (i.e. aromatic) polyamide containing layer (English patent abstract). Tanaka teaches that the laminates have excellent transparency and are highly suitable for packaging food. Tanaka discloses that layers of EVOH and polyamide are often laminated for use as packaging materials, due to the

high gas barrier provided by EVOH and the pinhole resistance provided by polyamide [0002]. However, when stinky items are packaged, the smell leaks, restricting the use of such laminates for many foods [0002].

Tanaka teaches that adding an aromatic polyamide layer to a laminate of EVOH and aliphatic polyamide improves the smell retaining property of the laminate [0004] and [0012].

Given that Kuriu teaches the use of the multilayer films for packaging food (column 3, lines 24-27), it would be obvious to one of ordinary skill in the art to add a layer of aromatic polyamide, as taught by Tanaka, to the multilayer film taught by Kuriu in view of Yamamoto and Toyozumi, in order to improve the smell retaining property of the laminate.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kuriu** (WO00/56548, the US patent equivalent, 6645640, will be cited herein) in view of **Yamamoto** et al (JP 11-199741), and **Toyozumi** (JP 2002-338770) as applied to claim 1 above, as evidenced by **Shibuya** et al (JP 06-345919).

The above rejection of claim 1 over Kuriu in view of Yamamoto et al and further in view of Toyozumi is incorporated here by reference.

Yamamoto teaches that the polyamide and alcohol EVOH composition has excellent transparency and retorting resistance (English abstract), and teaches the use of nylon 6 for the polyamide resin in the EVOH layer [0005, 2nd line].

If not considered obvious that the multilayer transparent film disclosed by Kuriu in view of Yamamoto and Toyozumi would inherently have the transparency and boiling resistance as recited in instant claim 27, it would be obvious in view of Shibuya.

Shibuya discloses a laminate composition comprising an inner layer of EVOH blended with polyamide and outer layers of polyamide resin (English patent abstract). Shibuya teaches that this multilayered laminate is useful as packaging for materials subject to retort or boil sterilization [0002, 0042, 0058]. Shibuya also teaches that there was no change in transparency in the three-layer laminate after 30 minutes in 95 °C water or 121 °C steam [0058 and 59].

As noted above, the multilayer film of Kuriu in view of Yamamoto and Toyozumi is identical to the presently claimed, and identical compositions must have identical properties. Accordingly, one of ordinary skill in the art would assume that the properties of instant claim 27 are inherent to the films of Kuriu in view of Yamamoto and Toyozumi, especially as evidenced by Shibuya.

The following newly set forth rejections were prompted by art submitted by Applicant on the IDS filed 1/4/10:

Claims 1, 3-5, 10, 12, 27-30, 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kuriu** (WO00/56548, the US patent equivalent, 6645640, will be cited herein) in view of **Yamamoto** et al (JP 11-199741), and further in view of **Sugiura et al** (JP 10151714; included machine translation cited herein).

Kuriu discloses a multilayered film consisting of three layers: a polyamide layer, a saponified ethylene-vinyl acetate layer, and a polyamide layer (columns 3-4, examples 1 and 2). In Example 2 (column 4, lines 9-17), Kuriu teaches that the polyamide layers comprise aliphatic polyamide (nylon-6) as the principal ingredient (86.0 wt %) and aromatic polyamide (poly(m-xylylene adipamide) in an amount of 10 wt % and a modified ethylene-vinyl acetate copolymer in an amount of 4.0 wt% (column 3, lines 54-56). Kuriu teaches that the film may contain organic additives such as antioxidants in typical amounts (col 2, lines 36-40).

Kuriu fails to teach that the saponified ethylene-vinyl acetate copolymer layer comprises polyamide resin and an alcohol based compound.

Yamamoto discloses a composition which has excellent retort resistance comprising saponified ethylene vinyl acetate (herein EVOH) mixed with a polyamide resin and an alcoholic compound. (English patent abstract and [0004] of machine translation). Yamamoto teaches that this composition may be formed into a film or sheet [0011] and that other materials may be layered on one or both sides [0012].

Yamamoto teaches that EVOH is commonly used as packaging in the food industry, yet it is flawed in terms of its heat resistance, shock resistance and stiffness [0002]. Yamamoto discloses that it is known in the art to blend polyamide resin with EVOH to improve the aforementioned flaws [0002]. It would be obvious, therefore, to one of ordinary skill in the art, to blend polyamide with EVOH in order to improve the heat and shock resistance, as well as stiffness, of the film. However, Yamamoto further teaches that EVOH/polyamide compatibility issues lead to deterioration of physical

properties [0003]. Yamamoto teaches that such compatibility issues can be resolved by adding an alcohol-based compound [0004]. It would be obvious, therefore, to one of ordinary skill, to add alcohol to a film comprising a blend of EVOH and polyamide, in order to avoid deterioration of physical properties due to incompatibility.

Yamamoto and Kuriu represent analogous art. Both disclose multilayer films comprising polyamide and EVOH layers for use in food packaging. Furthermore, both are attempting to reduce stiffness in film layers (Kuriu teaches that softening improves pinhole resistance - col 1, lines 19-25). Given Yamamoto's teaching that the physical properties of EVOH, including stiffness, can be improved by adding polyamide and alcohol, it would be obvious to one of ordinary skill in the art to modify the EVOH layer taught by Kuriu (as in example 2) by adding polyamide and alcohol, as taught by Yamamoto, in order to improve the heat and shock resistance, and overall stiffness of the multilayer laminate.

Kuriu teaches that, in order to give flexibility and pinhole resistance to a polyamide resin layer, a modified ethylene vinyl acetate copolymer may be added in an amount of 1 to 15 wt % (col 2, lines 1-25). However, Kuriu fails to teach the addition of an ethylene-methacrylic acid copolymer ionomer to the polyamide layer.

Sugiura teaches a laminate comprising a layer of a polyamide resin blended with 0.3-15 wt% of a flexible polymer, laminated to a layer of thermoplastic resin, such as EVOH, polyamide or a mixture (esp@cenet abstract, submitted by Applicant; also

[0024]). Like Kuriu and Yamamoto, Sugiura teaches that the lamination film is suited for use in food packaging [0044].

Sugiura teaches that the addition of the flexible polymer to the polyamide prevents abrasive separation (abstract, [0021]). In addition, the laminate has excellent pinhole resistance, pliability and strength [0044]. As the flexible polymer, Sugiura teaches that ethylene vinyl acetate copolymer, or a mixture of ethylene vinyl acetate copolymer with an ethylenic methacrylic ionomer are preferred [0012, 0018, 0019].

In view of Sugiura's recognition that, for the purpose of flexibilizing polyamide resin, ethylene vinyl acetate copolymer is equivalent and interchangeable with a mixture of ethylene vinyl acetate copolymer with an ethylenic methacrylic ionomer, it would have been obvious to one of ordinary skill in the art to substitute the ethylene vinyl acetate copolymer component in the polyamide layer taught by Kuriu (in col 2, lines 9-25) in view of Yamamoto with a mixture of ethylene vinyl acetate copolymer and an ethylenic methacrylic ionomer, and thereby arrive at the present invention. Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See *In re Ruff* 118 USPQ 343 (CCPA 1958).

Regarding **claim 3**, Yamamoto teaches the addition of silica to the EVOH resin system [0011].

Regarding instant **claim 4**, Yamamoto discloses that the composition is prepared by mixing a polyamide resin with an alcoholic compound and then adding EVOH to the mixture (English patent abstract and [0004] of machine translation)

Regarding instant **claim 5** both Kuriu and Yamamoto [0007] teach EVOH which fulfills the recited ethylene content and degree of saponification. The EVOH used by Kuriu in examples 1 and 2 contains 32 mol% ethylene and has a 99% degree of saponification (col 3, lines 55-58).

Regarding instant **claim 12**, Kuriu teaches that the multilayer film is produced by coextrusion (col 2, line 50) and biaxial stretching (col 2, line 62). See also Example 1, col 3, lines 60-67.

Regarding instant **claim 27**, Yamamoto teaches that the composition has excellent transparency and retorting resistance (English abstract), and teaches the use of nylon 6 for the polyamide resin in the EVOH layer [0005, 2nd line].

Regarding **claim 28**, Yamamoto discloses the claimed ratios exactly (English patent abstract).

Regarding instant **claims 29 and 30**, Kuriu teaches that the multilayer film is produced by coextrusion (col 2, line 50) and biaxial stretching (col 2, line 62). See also Example 1, col 3, lines 60-67. In addition, Yamamoto discloses coextrusion [0012] as well as stretching by “two axes” (i.e. biaxial stretching) [0011].

Regarding instant **claim 32**, the two polyamide layers taught by Kuriu in Example 2 (column 4), fulfill the recitations of the instant claim. Both polyamide layers comprise 10 wt % aromatic polyamide. Therefore, one layer reads on the recitation of "at least

one polyamide layer comprising aromatic polyamide in concentration of 2.0-10 wt%," while the other layer, as it contains aromatic polyamide, reads on the recitation of "at least one additional aromatic polyamide layer."

Regarding instant **claim 33**, Kuriu teaches that modified ethylene-vinyl acetate copolymers include each of the members recited in the instant claim (col 2, lines 20-25).

Regarding instant **claim 35**, Kuriu teaches 1 to 15 wt % of flexibilizing modified ethylene vinyl acetate copolymer in the polyamide resin layer. In substituting a mixture of ethylene-vinyl acetate copolymer and ethylene methacrylic ionomer (as made obvious by Sugiura), one would immediately envisage a 1:1 mixture of the two components, adding up to 1 to 15 wt%. As such, the ranges recited in instant claim 35 are deemed obvious.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kuriu** (WO00/56548, the US patent equivalent, 6645640, will be cited herein) in view of **Yamamoto** et al (JP 11-199741), and further in view of **Sugiura et al** (JP 10151714) as applied to claim 1 above, and further in view of **Tokoh** et al (US 5428094).

The above rejection of claim 1 over Kuriu in view of Yamamoto et al and further in view of Sugiura is incorporated here by reference.

If it is not considered obvious to add silica to the laminate made obvious by Kuriu in view of Yamamoto in Sugiura, Tokoh teaches that adding water-swellable phyllosilicate to EVOH allows the resin to retain excellent gas barrier properties and

good transparency even under highly humid conditions (col 2, lines 25-42). Given that Kuriu in view of Yamamoto and Sugiura teach subjecting the laminate to high humidity (retort), it would have been obvious to one of ordinary skill at the time the invention was made to add water swellable phyllosilicate to the EVOH, as taught by Tokoh, in order to retain excellent gas barrier properties and good transparency.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kuriu** (WO00/56548, the US patent equivalent, 6645640, will be cited herein) in view of **Yamamoto** et al (JP 11-199741), and **Sugiura et al** (JP 10151714) as applied to claim 1 above, and further in view of **Matsui** et al (JP 2002-248721).

The above rejection of claim 1 over Kuriu in view of Yamamoto et al and further in view of Sugiura is incorporated here by reference.

While Kuriu teaches the addition of antioxidant to the multilayer film, Kuriu fails to specify an antioxidant, and therefore fails to teach the recitations of instant claims 7 and 8.

Matsui teaches a layered film containing a polyamide layer suitable for packing material subject to retort treatment [0001]. Matsui teaches that the polyamide film has excellent transparency and heat resistance [0002]. Matsui discloses the addition of an antioxidant to the polyamide and suggests the use of pentaerythrityl-tetrakis[3-3,5-di-t-butyl-4-hydroxyphenyl]propionate [0020]. Given the teaching by Matsui that the

antioxidant minimizes strength reduction of the polyamide film following retort treatment [0019], it would have been obvious to one of ordinary skill in the art to add the antioxidant to the polyamide layers in the laminates taught by Kuriu in view of Yamamoto and Sugiura, in order to improve toughness of the film.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kuriu** (WO00/56548, the US patent equivalent, 6645640, will be cited herein) in view of **Yamamoto** et al (JP 11-199741), and **Sugiura et al** (JP 10151714) as applied to claim 1 above, and further in view of **Tanaka** et al (JP 2002-172742).

The above rejection of claim 1 over Kuriu in view of Yamamoto et al and further in view of Sugiura is incorporated here by reference.

Kuriu fails to teach the use of a primarily aromatic polyamide layer in the same multilayer film with a primarily ethylene vinyl acetate layer. While Yamamoto teaches the use of additional layers such as polyamide [0013], the reference fails to teach specific types of polyamide, and therefore fails to teach “aromatic polyamide.”

Tanaka teaches a biaxially stretched three layer laminate with an EVOH layer, an aliphatic polyamide layer and a xylylene (i.e. aromatic) polyamide containing layer (English patent abstract). Tanaka teaches that the laminates have excellent transparency and are highly suitable for packaging food. Tanaka discloses that layers of EVOH and polyamide are often laminated for use as packaging materials, due to the high gas barrier provided by EVOH and the pinhole resistance provided by polyamide

[0002]. However, when stinky items are packaged, the smell leaks, restricting the use of such laminates for many foods [0002].

Tanaka teaches that adding an aromatic polyamide layer to a laminate of EVOH and aliphatic polyamide improves the smell retaining property of the laminate [0004] and [0012].

Given that Kuriu teaches the use of the multilayer films for packaging food (column 3, lines 24-27), it would be obvious to one of ordinary skill in the art to add a layer of aromatic polyamide, as taught by Tanaka, to the multilayer film taught by Kuriu in view of Yamamoto and Sugiura, in order to improve the smell retaining property of the laminate.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kuriu** (WO00/56548, the US patent equivalent, 6645640, will be cited herein) in view of **Yamamoto** et al (JP 11-199741), and **Sugiura et al** (JP 10151714) as applied to claim 1 above, as evidenced by **Shibuya** et al (JP 06-345919).

The above rejection of claim 1 over Kuriu in view of Yamamoto et al and further in view of Sugiura is incorporated here by reference.

Yamamoto teaches that the polyamide and alcohol EVOH composition has excellent transparency and retorting resistance (English abstract), and teaches the use of nylon 6 for the polyamide resin in the EVOH layer [0005, 2nd line].

If not considered obvious that the multilayer transparent film disclosed by Kuriu in view of Yamamoto and Sugiura would inherently have the transparency and boiling resistance as recited in instant claim 27, it would be obvious in view of Shibuya.

Shibuya discloses a laminate composition comprising an inner layer of EVOH blended with polyamide and outer layers of polyamide resin (English patent abstract). Shibuya teaches that this multilayered laminate is useful as packaging for materials subject to retort or boil sterilization [0002, 0042, 0058]. Shibuya also teaches that there was no change in transparency in the three-layer laminate after 30 minutes in 95 °C water or 121 °C steam [0058 and 59].

As noted above, the multilayer film of Kuriu in view of Yamamoto and Sugiura is identical to the presently claimed, and identical compositions must have identical properties. Accordingly, one of ordinary skill in the art would assume that the properties of instant claim 27 are inherent to the films of Kuriu in view of Yamamoto and Sugiura, especially as evidenced by Shibuya.

Response to Arguments

Applicant's arguments filed 1/4/10 have been fully considered but they are not persuasive.

Applicant argues that because Matsui teaches an adhesive layer between a polyamide layer and a thermoplastic layer, Matsui teaches away from the present claims which do not include an adhesive layer.

Matsui was relied upon for the teaching of the specific antioxidant recited in claims 7 and 8. There is no teaching in Matsui that would lead one of ordinary skill away from using the antioxidant taught by Matsui as the antioxidant suggested by Kuriu. The fact that the laminate structure taught by Matsui may differ from the laminate taught by Kuriu does not teach away from the use of Matsui's antioxidant as the antioxidant suggested by Kuriu. Matsui is relied upon to show that the specific antioxidant recited in the instant claims has been established as a suitable antioxidant for adding to polyamide layers (which will be used for packaging and subject to retort treatment). Matsui is further relied on to show that one having ordinary skill would have had motivation to choose the instantly recited antioxidant, as it minimizes strength reduction of the polyamide film after retort treatment [0019-0020]. There is no teaching in Matsui which implies that the specific antioxidant would not or could not function in the polyamide layer taught by Kuriu.

As noted in the previous action, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Applicant's figures 1 and 2, submitted 1/4/10, fail to establish unexpected results. First, Applicant implies that the films in the figures are prepared according to comparative example 4. However, Applicant's statement that Exhibit 1 shows "pictures using such a 'slightly whitened' film" casts doubt as to the actual composition of the pictured films. In addition, no comparison can be made to a non-whitened film.

Second, Examiner notes that results showing improved haze suppression when antioxidant is used would fail to overcome the prior art. The primary reference, Kuriu, teaches the addition of antioxidant. Applicant has not shown that the specific antioxidants recited in claim 8 provide improved transparency over other antioxidants.

In addition, the comparison of Example 1 to comparative example 4 is insufficient to show that the general use of antioxidants provides improved haze suppression. Examiner notes that Comparative Example 4 is not simply Example 1 minus antioxidant. The composition of the polyamide layer in Example 1 contains both a modified EVA copolymer and an ethylene methacrylic acid ionomer. Comparative Example 4, however, contains only a "modified ethylene vinyl acetate copolymer ionomer." As such, a direct comparison of the two examples proving the effect of antioxidant is not possible.

Applicant argues that Tanaka teaches away from claim 32 and is not combinable with Kuriu. Here again, Examiner notes that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the

primary reference. There is nothing in Tanaka to suggest that smell-retaining aromatic polyamide containing layer "Z" [0011-12] would not or could not function as a smell retaining layer if added to the laminate taught by Kuriu. Examiner also notes that the instantly recited “additional aromatic polyamide layer” is not defined with any minimum amount of aromatic polyamide which must be present. As such, Tanaka’s Z layer, which contains 20-80% aromatic polyamide, satisfies the instantly recited "aromatic polyamide layer."

Applicant argues that the teachings of Kuriu and Toyozumi are incompatible, as the teachings of Kuriu go against the teachings of Toyozumi and vice versa (with regard to the proportions of EVOH and polyamide blended in each reference).

As noted in the previous action, Toyozumi is relied upon solely for the suggestion and motivation to add an ethylene methacrylic ionomer to a composition comprising EVOH and polyamide (improved barrier and pinhole resistance). Toyozumi teaches that adding ionomer to a blend of EVOH and polyamide resolves issues of non-uniformity. One having ordinary skill would recognize that the non-uniformity described by Toyozumi results from an incompatibility between EVOH and polyamide. Therefore, it would be obvious to one having ordinary skill to follow Toyozumi’s teaching to add ionomer to a blend of EVOH and polyamide, regardless of the ratio of the two components, in order to compatibilize the EVOH and polyamide and improve film uniformity.

Conclusion

Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 1/4/10 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RACHEL KAHN whose telephone number is (571)270-7346. The examiner can normally be reached on Monday to Friday 8:00 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. K./
Examiner, Art Unit 1796

/RANDY GULAKOWSKI/
Supervisory Patent Examiner, Art Unit 1796